

this butterfly is *Phyciodes pulchellus* (Boisduval, 1852) by virtue of the provisions of the Code, including gender congruence.

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Received for publication 28 January 2002; revised and accepted 10 May 2002.

Journal of the Lepidopterists' Society
56(3), 2002, 172-173

HEDYA SALICELLA (L.), A PALAEARCTIC SPECIES, COLLECTED IN NORTH AMERICA (TORTRICIDAE)

Additional key words: immigrant, Olethreutinae, *Salix*, *Populus*.



FIGS. 1-2. *Hedyia salicella* male from Atchison Co., Missouri. 1. Wings. 2. Genitalia (genit. slide MS 97199).

Hedyia salicella (L.) is a trans-Palaearctic species whose larvae feed in spun shoots and folded leaves of *Salix* and *Populus* species (Salicaceae). The five North American specimens reported here were in three different collections, two public and one private. The distinctive forewing and genitalia of these specimens (Figs. 1, 2) match illustrations and adult sizes in Bentinck & Diakonoff (1968), Bradley et al. (1979), and other handbooks on Eurasian Olethreutinae. They

also match three pinned adults of *H. salicella* from England and Germany that we examined.

The American specimens were collected over a 30-yr period at scattered localities: 1956 in Ontario, 1975 in Massachusetts, and 1985 in Newfoundland and Missouri. Such a diffuse temporal-geographic pattern provides little specific information about introduction and spread beyond the general conclusion that *H. salicella* is an immigrant in North America.

The June–August adult recovery dates are similar to those reported in Eurasia (Bentinck & Diakonoff 1968, Bradley et al. 1979, Kuznetsov 1989), and suggests that *H. salicella* is bivoltine in North America. Details of wintering in Eurasia are unclear, but adult flight dates also suggest that the egg or partly grown larva is the wintering stage.

Specimens examined. North America: Vittoria, ON, 13–VIII-56, Freeman & Lewis, Canadian National Collection of Arthropods (CNC), Ottawa, ON; Cambridge, MA, 381 Walden St. at Concord Ave., 26–VI-75, R. Silberglied, at 15 w blacklight, male genit. slide WEM 911981, forewing length 9.0 mm, Museum of Comparative Zoology, Harvard, University, Cambridge, MA; 2 specimens, St. Johns, NF, reared VII-85, CNC; Brickyard Hill Wildlife Area, Atchison Co., MO, at blacklight, J. R. Heitzman, male genit. slide MS 97199, forewing length 9.0 mm, J. R. Heitzman collection, Independence, MO (Figs. 1 & 2). Europe: Derbyshire, England, 30–VI-25, H. C. Hayward, male genit. prep. WEM 291992, forewing length 9.5 mm; Mt. Kaiserstuhl, Baden-Württemberg, Germany, 6–VII-53, E. Jäckh, forewing length 10.0 mm; Capeila, Germany, 14–VII-42, Heddergott, male genit. prep. WEM 291991, forewing length 10.0 mm, all three in U. S. National Museum of Natural History, Smithsonian Institution, Washington, DC.

Journal of the Lepidopterists' Society
56(3), 2002, 173–176

A HOSTPLANT EXTENSION FOR *HEMILEUCA HERA HERA* (SATURNIIDAE: HEMILEUCINAE): THREETIP SAGEBRUSH (*ARTEMISIA TRIPARTITA* RYDB.)

Additional key words: sagebrush sheep moth, *Artemisia tridentata*, captive-rearing.

Big sagebrush, *Artemisia tridentata* Nutt. (Asteraceae), is widely documented as the exclusive host-plant for the sagebrush sheep moth, *Hemileuca hera hera* (Harris) (Ferguson 1971, McFarland 1974, Tuskes 1984, Stone 1991, Tuskes et al. 1996). In an investigation of insects in the upper Snake River Plain of southeastern Idaho, Stafford (1987) also found larvae of *H. hera hera* only on *A. tridentata* hosts, despite the presence of *A. nova* Nelson, *A. arbuscula* Nutt., and *A. tripartita* Rydb. at the study sites. The use of *Artemisia* species other than *A. tridentata* has been reported only by Collins (1974), who observed a small number of *H. hera hera* larvae on silver sagebrush, *A. cana* Pursh.

During a series of field surveys conducted to investigate the life history of *H. hera hera* in the same general area of southeastern Idaho studied by Stafford (1987), I commonly found larvae on *A. tridentata* ssp. *wyomingensis* (Beetle & Young). However, in one mixed-sagebrush community, I observed larvae at all stages of development feeding on both *A. tridentata* ssp. *wyomingensis* and *A. tripartita* ssp. *tripartita* (hereafter abbreviated as *A. tridentata* and *A. tripartita*). In 1997 and 1998, I reared captive larvae on *A. tripartita* for the purpose of obtaining voucher speci-

We thank J. W. Brown, S. Cover, D. G. Furth, J. R. Heitzman, and P. D. Perkins for specimen loans.

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Received for publication 14 February 1999; revised and accepted 1 December 1999

mens. My observations of host associations and the results of captive-rearing are discussed in this note.

Field-observations. During April 1997, an intensive search was conducted of the area in which *H. hera hera* larvae were observed feeding on *A. tridentata* and *A. tripartita* hosts. Plants containing larvae were tagged and larval development was monitored weekly between May 1997 and July 1997. Larvae on both *A. tridentata* and *A. tripartita* demonstrated a life history and behavior typical of *H. hera hera* in other parts of its range. On both hosts, first through third instars generally fed gregariously and then dispersed to feed individually as fourth and fifth instars. On multiple occasions, late-instar larvae were observed to move from one *Artemisia* species to the other. Larvae often remained on the second host for several days, indicating that plants of both species were acceptable food sources.

Female *H. hera hera* in this study area also used both *A. tridentata* and *A. tripartita* as oviposition hosts (Hampton 2000). Eggs were most commonly laid on stems of both *Artemisia* species, but approximately 18% were located on the stems of other species in the sagebrush understory including *Chrysothamnus viscidiflorus* (Hook.) Nutt. (Asteraceae), *Leptodactylon*